THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. VII.] WEDNESDAY, AUGUST 22, 1832. [NO. 2.

TYPHUS AND CHOLERA.

Sinking Typhus compared with Malignant Cholera. By THOMAS MINER, M.D.

Communicated for the Boston Medical and Surgical Journal.

'TYPHUS SYNCOPALIS may be defined—A *nervous* fever, in which the stage of reaction is wanting, the torpid or forming stage and the stage of exhaustion being blended together, attended with pain in the head and vertigo, and paroxysms of gastric sinking; and, for the most part, with a cool skin and a slow pulse, and an absence of all febrile smell.'

'Petechiæ, eruptions ecchymoses, general infusion of the capillaries, coma, delirium, palpitation, interrupted respiration, numbness and insusceptibility to the action of ordinary rubefacients and epispastics, and sinking after evacuations, are much more common than in any other febrile disease. By attending to these symptoms, it may be more easily distinguished than any other continued fever.'

'Coma or delirium may sometimes be so severe or so protracted, as to overwhelm or disguise every other symptom; or the attack may be so violent as to destroy life in a few hours; and in these circumstances, in sporadic cases there may be, with the inexperienced, some hesitation as to the nature of the complaint. But, on the whole, there is less liability to mistake than in the diagnostics of any other acute fever with which we are in the habit of meeting, in the ordinary course of practice.'

'Dysentery, cholera, cynanche, catarrh, cough, pneumonia, measles, rheumatism, gout, and even common typhus, are often complicated with it; yet there is always some prominent symptom, by which it may be determined when the *general affection of the system* is typhus syncopalis.'*

If the first paragraph of this extract is considered as a *generic* description of a peculiar kind of *sinking* fevers, it unquestionably comprehends malignant cholera. It describes a general torpid, exhausted, or collapsed state of the system, resembling a combination of the cold or first stage and the last or sunken stage of an ordinary but severe *nervous* fever, in

* See Typhus Syncopalis or Sinking Typhus, or the Spotted Fever of New England, &c. By Thomas Miner, M.D. 1825. See also Boston Medical Intelligencer, Sept. 13, 1825. See, further, American Medical Recorder, July, 1827.

which the stage of reaction or the hot stage is absolutely wanting. The next two paragraphs recount the most common symptoms which casually occur in this sunken febrile disease, though they are many of them accidental, and are therefore not absolutely necessary, at least not all of them, to the complaint. The last paragraph enumerates several diseases, which, in a nosological point of view, have their peculiar names, and yet may be attended and combined with this *generic* sunken state of the system. This is not surprising, as every physician knows that all acute diseases are apt to *wear the livery* of the prevailing epidemic constitution. Among the diseases thus enumerated, *cholera* is expressly mentioned, it having occasionally been met with, and found to be a very distressing and dangerous appendage to typhus syncopalis.

Thus far, all is plain. It is usually very easy to see *generic* resemblances; but it often requires the most exact discrimination to detect *specific* differences. Let us not, however, be discouraged in the attempt. I believe, in the year 1825, I was the first to suggest the resemblance of sinking typhus to malignant cholera. I then formed the idea, that both diseases possess the same general character, and consequently require the same general treatment, varied unquestionably according to particular circumstances, but probably not more so than in different cases or varieties of the same specific disease. I am still of the same opinion, though I have subsequently turned my attention to the usual differences, so as to enable me, if possible, to point out the distinctions in their diagnostics, as well as in their treatment. As far as respects myself, I have come to some tolerably definite conclusions, though I may perhaps fail in making their ground perceptible to others.

It is agreed that we have no very precise rules in nosology, by which to distinguish *species* and *varieties*. Diseases of most kinds do not retain their specific differences in the same sense as is the fact with plants and animals; but they frequently run into each other, and form hybrides or permanent varieties, which may continue for a length of time; and in this respect, for all nosological purposes, they may be considered as distinct species. In this point of view, the more evidence I receive, and the more I reflect on the subject, the more am I inclined to believe malignant cholera and sinking typhus to be *distinct*, though very nearly *allied*, species. As I have elsewhere remarked, they resemble each other as much as epidemic catarrh does common catarrh, remittent intermittent, or perhaps more nearly still, the yellow fever of the West Indies the malignant remittent of Batavia.

Without adverting to the supposed variations between Asiatic and European cholera, the former being said to be much more rarely preceded by diarrhœa, and as rarely followed by fever, it is evident that cholera is a more simple disease than sinking typhus. In cholera, there is usually but one extreme paroxysm of *subsidentia*, sinking, or collapse, of which there is rarely or never a spontaneous remission. Unless it is removed by art, it generally continues till it sinks the patient in death. This is occasionally the case in the extreme instances of sinking typhus; but perhaps in three cases out of four the patient has a milder kind of sinking, which recurs by periods, it being what I term *ordinary* sinking. Unless these paroxysms of *subsidentia* are mitigated or removed, they

fatally exhaust the patient, and he is then seized with what I call *critical* sinking, which very exactly resembles the dreaded collapse of cholera, and from which, in both diseases, it is about equally difficult to raise him. In general, there is a much greater *weight of disease on the brain*, and coma or delirium is much more frequent, in sinking typhus than in cholera. This is a very important distinction, and perhaps the principal one of any consequence, either in a nosological or practical point of view; and it is the reason that blisters to the head are so indispensable in every bad case of sinking typhus; and because this state of the brain is atonic in the extreme, immensely large doses of the diffusible stimulants are not only tolerated, but imperatively demanded. As Sydenham and Rush both remark, opium relieves this atonic coma and delirium.* In cholera, there is a peculiar *torpor of the hepatic system*, and a great portion of the burden of the disease is in the stomach and other parts of the alimentary canal; and if mercury can be made to act in season, the other parts of the system, in general, resume their functions. As far, therefore, as respects the peculiar local affections, the atonic, irregular state of the brain is to be relieved in sinking typhus; in cholera, it is an important indication to remove the torpor from the liver and contiguous viscera. Besides the peculiar, local affections, the general state of the system at large is very much alike in both complaints. There is in both an obvious debility, or diminution of vitality, and a greater or less degree of oppression, depression, or sedation, so that there is a great insusceptibility to the remedial action of ordinary agents. This debility in sinking typhus is not merely apparent, but real; the powers of life are actually exhausted, not smothered, and the vital flame is nearly extinct. All depletion, every emetic, cathartic, or refrigerant, or whatever debilitates, obviously sinks the patient, and rapidly wastes the little remaining vitality. Even in those cases in which it is judged expedient lightly to move the bowels, more than one motion always increases the sinking. It is somewhat different in cholera. Though there is considerable exhaustion, the relative oppression or torpor is usually still greater. The consequence is, that patients will often bear emetics, cathartics, venesection, ice and other refrigerants, and indeed almost any kind of treatment, for hours, without apparently sinking much the faster for them; and occasionally such means, however absurd some of them may be, by the forcible shock which they give the system remove the torpor, and with it the disease. There can be no question, that if sinking typhus were to be treated in this desultory and rash manner, it would prove to be a much more fatal disease than cholera. The reason is, that the main indication in sinking typhus is to restore the system from the exhaustion; in cholera, torpor is to be overcome, and it is best effected by agents that will waste as little of the vitality as possible. When this is attempted by depletion, it is playing at a game of great hazard. There is no middle ground, when the practice is carried to any extent. It is victory or death. I have elsewhere stated, that in sinking typhus there now and then occurs a case, in which medicines will produce their specific or operative effect, without any remedial effect; thus, mercury may salivate, alcohol exhilarate,

* See Rush's Sydenham, page 115, edition 1809.

and opium may stupify, without *counteracting* the disease. Indeed, in this case, the operative effect seems to *coincide* with the diseased action, and to increase it. Happily such cases, though sometimes occurring, are still very rare in sinking typhus. They are said to be more common in the collapse of cholera. I presume, however, it is more generally the case in those subjects who have a long time remained in a sunken state, without any proper assistance. A peculiar, anxious, sunken countenance, with a leaden, or purple, or motley hue of the skin, though frequent in the worst cases of sinking typhus, are much more common, if not universal, in the collapse of cholera. The shrinking of the muscles or their integuments, and the floculent, limpid, or rice water dejections, though perhaps not absolutely peculiar to cholera, are yet so general as to be characteristic of the disease.

I have thus enumerated all the important nosological and practical differences which have occurred to my mind, though it is very possible that some others of equal weight may have escaped me. It remains to make practical inferences.

It is obvious, that the common symptoms of both diseases are to be met by the same means. Coldness, pain, numbness, spasms, vomiting, purging, &c. are to be relieved by similar treatment in kind, if not in degree. The same is the case with that intolerable gastric sinking, or inexpressible anxiety at the stomach, as well as with general debility, as far as it extends. A great point, however, is to overcome the extreme torpor of the liver and other viscera in cholera, after it has been suffered to remain any considerable time. On its first access, as appears by the testimony from India, it is very surely and successfully combated by opium, essential oils, alcohol, and external heat. Still, it appears, on account of the peculiar state of the hepatic system, that calomel is about as important as an adjuvant in cholera, as blisters to the head are in sinking typhus, on account of the state of the brain. When these measures are timely employed, the probability is, that there is no very great difference in the relative success in the treatment of the two diseases. The misfortune is, that in cholera the number of patients on hand at the same time is often so large, and there is so great a delay in removing them to an hospital, that before any treatment is employed they have already advanced far into what I call *critical* sinking, or a fatal collapse. Still, there is something to be done. With all the seeming exhaustion, and no doubt it is very considerable, much of this apparently desperate condition is owing to torpor. Instead of abandoning these forlorn objects to their fate, or of trying rash experiments, such as bleeding, ice, antimonials, &c. we should follow the analogy, as far as it goes, by which similar symptoms have been overcome in other diseases. There is no need of the actual cautery, or of hot water blisters. Sinapisms and epispastics, moistened with oil of turpentine where they touch the skin, and enemata of half an ounce of oil of turpentine, with two to four drachms of laudanum, diluted with a little mucilage, every hour or two, have frequently restored some of the most hopeless cases of sinking typhus. A single dose of half a drachm to a drachm of calomel, with three or four grains of opium, followed by alcohol, essential oils, and other *acrid* stimulants, combined with moderate quantities of opium, judging from a few cases that I have

seen reported, bids fair to remove the torpor of some kinds of cholera. It is to acrid stimulants, if to anything, that we must look for the removal of extreme torpor. Ten minims of Fowler's solution, combined with laudanum, and in some cases with drachm doses of tincture of capsicum, taken upon the stomach every hour, have sometimes succeeded, and produced a favorable reaction. Much depends upon the manner of treating reaction when it does occur. The heat which sometimes supervenes is from irritation, and not from active inflammation, and is, therefore, much more safely mitigated by sedatives than by venesection. The engorgement or congestion, which is so much talked of, is the result of debility, and not of entonic action. It is, therefore, best prevented by proper general support; and if it is on the brain or lungs, by blisters rather than by the lancet. This state of congestion is usually found in subjects that have been bled to death.

One circumstance had nearly escaped me. As respects the range of its severity, that of sinking typhus seems to be much wider than cholera; and, as Darwin says of cynanche maligna, it exists from a flea-bite to the plague, in every intermediate degree of intensity. In its severest form, I have seen it destroy life within six hours after its attack, and within one hour after a prudent family became sufficiently apprehensive to call a physician. It was attended with vomiting and diarrhœa, or in other words, was a case of complete cholera. In this case, no medicine at all, except twenty-five drops of laudanum, was administered. Other cases have been distinctly marked, and yet so slight as not to require the patient's keeping his bed. It varies equally with respect to its duration. It is sometimes broken up within a few hours of its access, but more generally continues five or seven days; at other times, especially when it is complicated with common typhus, and often when it is only a mild disease, it is protracted two, three, or four weeks, and even occasionally two or three months. However, in these protracted cases, daily paroxysms of gastric sinking, or, in a few instances, only weekly attacks of the kind, very plainly show the nature of the disease. Like cholera, it pays very little respect to seasons, and has frequently prevailed in every month of the year. It has occasionally appeared, under the name of *cold plague*, or *spotted fever*, in every parallel of latitude, from New Orleans to Canada, though it is believed to have appeared much the most frequently in the interior of New England, and has made considerable ravages in the State of Ohio. The manner in which cholera propagates itself from town to town, district to district, state to state, and continent to continent, is very different from the way in which sinking typhus usually prevails.

From these considerations, it appears to me that sinking typhus and malignant cholera, though they are obviously comprehended in the *same genus*, are nevertheless diseases of quite *distinct species*. It is only in the suddenly fatal cases of sinking typhus, or in the period of its *critical* sinking, that its resemblance is so great to cholera as to make it a question whether they are not identical. They apparently diverge from each other, in proportion to their mildness. Ordinary cases of sinking typhus so much resemble common *nervous* fever, that without a previous history, or being present during a paroxysm of *ordinary* sinking, the best judges

can scarcely discern the difference; and when the patient is free from gastric sinking, as in the milder cases he is tolerably so for several hours every day, a superficial observer, at these times of remission of the distress of the stomach and its attendant symptoms, usually detects no tinge of typhus syncopalis. Such difficulties in the diagnosis, it is said, do not occur after cholera has been once developed, or at any rate not till the collapse is removed, and a consecutive fever supervenes.

Middletown, Conn. August 7, 1832.

CHOLERA AT NEWPORT.

Dr. Turner's account of the first Cases of Cholera at Newport. Communicated for the Boston Medical and Surgical Journal by J. C. Warren, M.D.

Newport, August 3, 1832.

To Dr. John C. Warren, Boston.

Dear Sir,—I will allow myself to make a brief but circumstantial statement of the only cases of cholera (two in number) which have existed in this town. I am the more willing to do so, in consideration of the erroneous rumors and statements that have been circulated upon the occasion, abroad, I find, as well as amongst ourselves, some of which, it seems, have created a corresponding apprehension respecting the safety of two members of your family, at present on a visit here.

Having availed myself of ample means of acquiring a satisfactory knowledge of the most important circumstances connected with these cases, the correctness of the following statement may be relied on.

Two unmarried females, of about 38 and 42 years of age respectively, were the unhappy subjects—both of them persons of ordinarily good constitutions. They left Montgomery county, forty miles above Albany, where they had been spending several weeks on a visit, about the twelfth of July, in perfect health—took water passage to Albany, where they remained four hours on board the steamboat, in which they arrived at New York, after an ordinary passage—landed on the west side, and passed immediately over to the east side of the city, through the upper part of it, to the packet Hero, lying there, as passengers for Newport, and remained on board, with 35 other passengers, the four days previous to her sailing, which was on the morning of Tuesday, the 17th. After a passage of 24 hours, arrived in our harbor the next day about noon, where the vessel was immediately quarantined near Rose Island, all the passengers but eight or nine taking up their quarters at the United States barracks at that island, fitted up for quarantine purposes. The two cholera patients above-mentioned were amongst the small number that remained on board the vessel. All the passengers remaining well on the evening of the 24th, they were, by an order of the Board of Health, released from quarantine at sun-rise next morning (unfortunately without the health officers ascertaining that serious illness had occurred on board the vessel, in these two instances, in the course of the night). Two hours after, these patients, with the other passengers, landed in the town at the head of Bannister's wharf, and were conveyed in a carriage to the house of a relative in Spring Street.

At nine o'clock an urgent application was made for me to visit them as soon as possible; but being engaged in a circle of business which carried me out of town, I did not return in season to see them until about noon, when I found Drs. Dunn and Hazard with them (who had preceded me about an hour), earnestly and anxiously employed in administering the most appropriate internal and external remedies for their relief. We were of opinion that they were strongly marked cases of malignant or spasmodic cholera, and agreed upon the propriety of their being immediately reported as such to the Board of Health. Miss Horsewell, the patient first attacked, seemed to us in the state of irrecoverable collapse. Miss Peckham (attacked a few hours later), although her case was extreme and strongly marked, was perfectly rational, and capable for five hours of answering intelligently to any question put to her. Her statement was, that they dined on board the vessel the afternoon previous, and ate moderately of fresh meat and green peas. On being scrutinizingly questioned as to the quantity and quality of the latter, she assured us that they were young, tender and well cooked, and that neither of them ate more than a teacupfull, after which they took no solid food; that at about nine o'clock they both went to bed, free from any complaint, she not having had any previous bowel complaint, although her friend had had a slight one, for a few days before, which had at that time subsided. At about eleven o'clock her friend began to be affected with severe cholera morbus, and herself with the same symptoms three hours later, which continued upon them when they were visited by the health officer in the morning. The woman of the house where they were carried informed me, that, upon entering her door, she was extremely shocked with their appearance, their countenances, as she expressed it, being frightfully haggard and sunken.

This being the first introduction amongst us of this new and frightful disease, we all agreed on the propriety of notifying all the practising physicians in the place of the event, that they might, without exception, have an opportunity of making their observations upon its symptoms, &c.—which opportunity they all availed themselves of, in the course of the afternoon. Miss Horsewell died at eight o'clock in the evening, and Miss Peckham about five hours after. They were both, as soon as possible after their decease, enveloped in tarred sheets; the first was interred about midnight, and the other before sun-rise. Early the same morning the bedding and clothes of the deceased were buried to the depth of some feet, and all due purificatory measures, as respected the house, were, under the direction of the Board of Health, with the advice of the faculty, thoroughly executed.

The latter part of the same night, Miss Chace, a passenger in the same vessel, who performed her quarantine likewise on board, and went immediately afterwards to her home in the town of Portsmouth, was attacked with the same symptoms, and became so much alarmed by nine o'clock in the morning as to send for her physicians, who found her in the asphyxial state of the complaint, which terminated fatally at 3 o'clock, P. M.

Another passenger, Mr. Bowen, who lodged and spent much of his time in the cabin likewise, went to Bristol immediately on being released—became ill the next day with the same cholera symptoms, under the endurance of which he sunk in a few hours. These are the only cases of the kind we have heard of from amongst the whole number of passengers. It forces itself upon our notice that they were all amongst the few who staid by the vessel; for if the latter did not take all his meals there, he

lodged on board every night. Is it not probable, then, that the seeds of cholera were received in New York, and that the predisposition favoring the developement of the consequent disease was created by the comparatively confined and close air of the vessel's cabin, whilst the more fortunate number, who took their better ventilated quarters at Rose Island, avoided such predisposition, and consequently escaped its dreadful consequences?

The period since the introduction of this pestilence amongst us has been a time of most anxious expectation. We have encouraged ourselves with the belief, that the extraordinary purity of our atmosphere, exempt as it is from all malarious and other deleterious vapors, would, aided by the due cautionary measures adopted, give us a reasonable prospect of being less severely dealt with by this frightful enemy than the inhabitants of other places less favorably circumstanced in these respects; and as nearly nine days have now elapsed since the interment of its victims in this town, without the occurrence of any new cases, either amongst their attendants or their fellow citizens, we feel much strengthened in this cheering hope—aware, at the same time, that a few days' exemption more must pass away before this hope can be fairly settled into sanguine confidence. With great respect,

Your friend and ob't servant, W. Turner.

P. S. This town has been unusually healthy since the 1st of July—a circumstantial evidence of which is, that, with a population exceeding eight thousand, only six deaths have occurred during the month, two of which were of strangers, one of whom arrived here, a few days previous to his decease, in the last stage of a protracted liver complaint; and the other was of pulmonary consumption. Of the remaining four deaths, which were amongst our citizens, one was immediately killed by a stroke of lightning. Since, however, the death of the two cholera patients described, we have had three other fatal cases of bowel complaint, occurring in one family in this town (the mother and two children), pronounced by the attending physicians to be spasmodic cholera. Whatever may have been the *exciting* cause in these instances, we have no reason to doubt that the subjects were predisposed, in the highest degree, to be affected with severe bowel complaints, from local causes confined to the spot, calculated to produce the most offensive and unwholesome exhalations. This, I understand, was evident to the physicians and other persons who went to the house before it was cleansed, who found the foul air there generated excessively offensive. Yours, &c. W. T.

EXPERIMENTS WITH SULPHATE OF MORPHINE.

Results of Experiments with, and Observations upon, Sulphate of Morphine. By William Tully, M.D. Professor of Materia Medica and Therapeutics in the Medical Institution of Yale College.

The only series of experiments for the purpose of determining the precise medicinal powers of Morphine, of which I have any knowledge, are those of Dr. Bally (of France); and even with these, I am acquainted only through what I take to be a mere summary of his results, abstracted from a European periodical. As far as I can ascertain from the

summary in question, Dr. Bally seems to have employed uncombined Morphine. My own experiments were made entirely with the Sulphate of Morphine, and I have generally employed this salt in my subsequent practice, so that my results must be understood as having been obtained with that preparation. I am not aware that there is supposed to be any difference between the number and the quality of the operations of Morphine and its salts, though there may be more or less in the degree of their effects. It is my purpose to refer to the conclusions of Dr. Bally, in immediate connection with my own.

Dr. Bally says that the action of Morphine upon the system, is very similar to that of Opium. This is certainly the fact with the Sulphate of Morphine. Several of my professional friends, to whom I have recommended the use of it, have informed me that they could perceive no difference between its effects and those of Opium. To this conclusion, however, I cannot entirely agree. Dr. Bally says that the brain and nervous system are the parts of the animal economy, upon which Morphine appears to exert its principal operation. This may be also true in general with the Sulphate; but, according to my observations, it would be very incorrect to understand it as excluding all effects upon the circulating, secretory and absorbent systems. The Sulphate of Morphine produces a very considerable degree of the calm, placid, and pleasurable sensation; the peculiar wakefulness, and even inability to sleep; and the mental exhilaration, which constitute a nervine operation. I am satisfied that its nervine effects are considerably greater, in comparison with its other operations, than the nervine effects of Opium. Whenever I have taken a single full dose of the Sulphate of Morphine (which, with me, is about a quarter of a grain), I have invariably been entirely unable to sleep, for a period between four and six hours afterwards. My wakefulness has always been calm, placid and pleasurable. Thus, when I have taken the dose, the beginning of the evening, I have usually been kept awake by it till about two o'clock the next morning; though the sleep obtained, during the remainder of the night, has seemed to refresh me as much as if I had slept the whole time.

Sulphate of Morphine appears to possess more or less diaphoretic power; though, as far as I am able to judge, less than Opium, and of course less than Narcotine. Sometimes, also, it produces a troublesome itching of the skin, which, in some cases, is universal, but in others confined to the nose, the neck, the loins, and the inside of the thighs. According to Dr. Bally, this itching is occasionally, but rarely, accompanied with an eruption.

In single full doses, the Sulphate of Morphine, under my observation, has invariably produced more or less hoarseness.

The Sulphate of Morphine powerfully allays morbid irritability and irritation,—morbid sensibility and sensation,—morbid mobility, restlessness and jactitation, and irritative actions generally, provided they are connected with a non-phlogistic, or a positively atonic diathesis. This is substantially stated by Dr. Bally, though with less precision. He, however, asserts that this agent is incapable of allaying cough. Now I have been long in the habit of using it for this purpose, not only upon my patients, but upon myself, and I consider it as the most effectual

article, in the whole materia medica, perhaps with the exception of Narcotine only.

The Sulphate of Morphine is speedily and powerfully anodyne; and I believe it is more so, in proportion to its soporific powers, than Opium. It is also soporific; but under my observation, it has invariably been more speedy in producing its nervine, antirritant and anodyne operations, and less speedy in producing its soporific effects, than Opium. It is probable, that a variation in dose, and method of management, might occasion some variation in this respect. However, its soporific effects appear to me to be considerably less, in proportion to its other operations, than the soporific effects of Opium. When deep or sound sleep is produced by this article, it seems to be more laborious, respiration is more affected, the subject of it is less easily roused, and more heaviness and more disagreeable sensations remain after the sleep passes off, than occur from the operation of Narcotine; but, I am inclined to think, less than result from the operation of Opium. However, the observations that I have had opportunity to make on a powerful degree of the soporific operation of Sulphate of Morphine, have been few, and are therefore not absolutely conclusive.

Dr. Bally says that Morphine occasions dimness of sight, and that in brutes it occasions dilatation of the pupils, but not in man. He admits that this effect is produced only by large doses. I have never witnessed either dimness of sight without dilatation of the pupils, or dilatation of the pupils, from the Sulphate of Morphine; but as every active narcotic, when taken to a sufficient extent, seems to be capable of producing the former of these operations, I think it may be fairly presumed that this will not be found to be an exception.

When taken in full doses, Dr. Bally says that Morphine sometimes produces slight, but transient, or fugitive, (neuralgic ?) pains, in the umbilical region; which, however, he says, do not occur when the system has become a little accustomed to it. I have never witnessed this operation from the Sulphate of Morphine. Dr. Bally also informs us, that Morphine sometimes produces nervous tremors, and sometimes muscular agitations, neither of which have I ever observed from the Sulphate.

When taken either in a single large dose, or in moderate and uniform doses, at regular and short intervals, and for a sufficient length of time, the Sulphate of Morphine diminishes the contractility of the urinary bladder, and thus occasions difficulty in passing urine. Sometimes even a complete retention or suppression takes place. This effect passes off, when the influence of the agent upon the system is completely at an end. Dr. Bally mentions this effect, from large doses of Morphine, but he supposes that men only are susceptible of it, and that it *never* occurs in women. Now I have very often witnessed this operation from the Sulphate, and quite as frequently in women as in men. Dr. Bally thinks that Morphine neither increases nor diminishes the secretion of urine, nor changes its qualities in any way. Perhaps this is strictly correct of the Sulphate, though it has always appeared to me to diminish this secretion moderately. However, I do not consider my observations as decisive on this point.

Dr. Bally says that an occasional dose of Morphine produces torpor

of the intestines, but that its continued use renders the intestines lax. A regular and continued use of the Sulphate of Morphine, in uniform doses, and at equal intervals, has been as liable, under my observation, to produce costiveness, as a similar use of Opium, though I have not generally found a single full dose of it to produce this effect. On the contrary, it has, in many cases, been followed, after about twelve hours, with a single loose evacuation. On my patients, and on myself, I have uniformly found the Sulphate of Morphine to be both speedy and effectual, in checking diarrhœa. In my hands, it has always radically cured all cases in which I have employed it. I have never used it, however, in any case requiring extremely large quantities of medicine for its relief.

In single large doses, the Sulphate of Morphine produces only sedative effects; but, in moderate and uniform doses, at regular and short intervals, and continued for some time, it certainly produces stimulant effects, i. e. it occasions a rapidly diffused and transient increase of the vital energies generally, and particularly of the strength of arterial action. What proportion its stimulant operation may bear to its other effects, in comparison with Opium, is not perhaps well settled. Dr. Bally expressly denies that Morphine 'excites' the vascular system at all, even in small doses, and certainly not in large ones. Does he suppose that it would be admissible in a truly phlogistic, sthenic, or entonic disease? Has he ever employed it, in moderate and uniform doses, at regular and short intervals, and for a considerable time? If not, he has not tried it fairly. But Dr. Bally supposes that a '*disturbance of the functions of the circulating system*,' by large doses, has been mistaken for a stimulating effect. Cullen also supposed that an '*irritation of the sanguiferous system*,' which he admitted was the 'first operation' of Opium, was mistaken for stimulation. Now it matters not by what name this operation is called, so long as it is admitted that it exerts this operation, for this is undoubtedly the operation that augments phlogistic diathesis, and diminishes the atonic. It is an operation which is essentially attended with an increase of the vital energies generally, and an augmentation of the strength of the arterial action. A highly distinguished physician of the present day, in our own country, considers it a strange misnomer to call Opium a stimulant. If the name of this operation must be changed, and the Sulphate of Morphine not allowed to be a stimulant, Opium itself must share the same fate. Dr. Bally's notions in respect to the stimulant operation of Morphine seem to be only a revival of the exploded theory of Cullen, in regard to the stimulant operation of Opium. Whether the Sulphate of Morphine proves at one and at the same time both stimulent and sedative, or whether it proves sedative only, depends, according to my observations, as much upon the manner in which it is administered and managed, as it does whether Opium operates in one or both of these ways.

Dr. Bally declares that Morphine will not produce *headache*, nor any other of the symptoms of *excitement* (!) which follow the use of Opium. Now I have as often known headache produced by the Sulphate of Morphine, as by Opium, in proportion to the number of times that I have used each. It seems to me extraordinary that the headache, which some-

times results from Opium, even when given in an appropriate case, should be considered as a symptom of excitement.

Dr. Bally concludes that Morphine occasions no thirst, no loss of appetite, and no disorder of the digestive organs. Now, in certain cases, I have repeatedly witnessed each and all these effects, from Sulphate of Morphine; and, in certain cases, where they previously existed, I have known them obviated by it. Whether it occasions these effects or not, depends, according to my observations, upon the disease, the general condition of the system for the time being, the temperament of the patient, and, above all, the manner in which it is managed. In a very great majority of the cases in which I have employed the Sulphate of Morphine, certainly no such effects have occurred.

When administered in full doses, the Sulphate of Morphine is extremely liable to produce nausea and vomiting. Dr. Bally insists especially upon this, but he adds that by beginning with small doses, and gradually and slowly increasing their size, a full dose may at last be taken without these effects. The first dose that I ever took myself, consisted of only a quarter of a grain, and in about six hours it produced a very disagreeable vertigo and nausea, and it would doubtless have produced vomiting, had I not confined myself to my bed till the whole effect of the article entirely passed by. Even now, after having taken this dose for a great number of times, for the relief of an habitual dyspnœal cough, it seems to be full as much as I can bear, without the production of disagreeable symptoms. The first two or three doses that I ever took in the evening, caused a headache, for some hours, the next morning. Mrs. M—— T——, for pain in the stomach, took one fourth of a grain of Pelletier's Sulphate of Morphine, with relief of the pain, for which it was prescribed, within ten minutes. In about three hours it caused so much vertigo, faintness, and nausea, as to confine her to the bed, for the remainder of the day, which was seven or eight hours. A night's sleep, as is usual, entirely removed these symptoms. Miss M— A— M—, of an exquisitely nervous and susceptible temperament, took, at bed-time, for irritation in the alvine canal, one eighth of a grain of Pelletier's Sulphate of Morphine, made into a pill with extract of Gentian, and the same quantity the next morning, before rising. For the whole day, she had very troublesome vertigo, faintness, and nausea, and also frequent retching, which symptoms did not leave her till after another night's sleep; and even the day following, she had very great languor and lassitude. H— R— P—, a young lady aged 14, on account of diarrhœa, took, at 10 o'clock A. M. one fourth of a grain of Sulphate of Morphine, made into a pill with the extract of Gentian, which entirely suspended the diarrhœa, so that there was even no threatening of a return. Between one and two o'clock P. M. she began to complain of vertigo, epigastric uneasiness, and nausea, which, in a short time, in consequence of some exertion and motion, produced vomiting. After this, the vertigo, epigastric uneasiness, and nausea, increased considerably, and were attended with a distressing faintness, which soon confined her to the bed, where she was obliged to remain the whole afternoon. About six o'clock P. M. she got up, which increased all the disagreeable symptoms, and again produced vomiting. She again went to bed, had cool skin and

irregular pulse, and about seven o'clock, even whilst upon the bed, had another paroxysm of vomiting. After this, she got up, merely for the purpose of undressing. After a night's sleep, all disagreeable symptoms entirely disappeared, and the next day she was as well as usual. Dr. S— F—, for pain and distress in the stomach, connected with long protracted functional derangement of the digestive organs, took one fourth of a grain of Sulphate of Morphine, which gave perfect relief, in a very few moments, but in two or three hours occasioned vertigo, faintness and nausea. Dr. Baxter, one of the translators of Magendie's Formulary, says, 'I have lately used the Acetate of Morphine, with good effect, in dysentery; the pain and tenesmus were allayed, the complaint in some measure checked, and sleep was produced.' He adds, 'I have, however, been considerably disappointed in another case, where effects were produced, which I must leave to M. Magendie to explain.' 'I gave to a gentleman laboring under continued and troublesome general irritation of the system, half a grain of Acetate of Morphine, prepared by Messrs. Pelletier and Caventou.' 'This dose was taken at night, on going to bed, and in pill, but no sleep was produced; there was great restlessness, a desire to rise, or, as he expressed it, an inability to keep himself down, giddiness, partial delirium, and, in fact, all the symptoms of intoxication' (*an extremely inappropriate term in application to these effects*) 'from Opium were produced.' 'The next day, headache, heat of the palms of the hands, lassitude, and some febrile symptoms, were the consequence.' Three doses of Morphine, of half a grain each, dissolved in Alcohol, it is said, produced on Sertuerner, and three of his pupils, a decided stimulant effect, which was followed by prostration, numbness, and faintness. In one delicate individual, who swallowed vinegar, while in this condition, violent vomiting was immediately excited, which was followed by profound sleep, and the next day by headache, heaviness, anorexia, nausea, retching, and torpor of the intestines. From such observations as I have been able to make, I am inclined to think that the quantity of Morphine which is required to relieve an extremely severe degree of pain, is more likely to be followed by vertigo, nausea, faintness, vomiting, and headache, than the quantity of Opium which would be adequate to the production of the same anodyne effect; though perhaps my opportunities for determining this have not been sufficiently extensive to enable me to decide. But, whether Sulphate of Morphine produces disagreeable and unpleasant effects or not, appears to me to depend always upon the manner in which it is administered and managed, just as is the fact with Opium; and I consider it certain that such effects from either depend upon some sort of injudicious management, in relation to the temperament and susceptibility of the patient, and the circumstances of the disease.

Dr. Bally imagines that there is some reason to conclude that Morphine is anthelmintic, because worms have been rejected when it has occasioned vomiting. I have known worms rejected by vomiting when produced by the irritation of the fauces with a feather; but I did not, on that account, suspect that process of being anthelmintic.

BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, AUGUST 22, 1832.

We presume it is generally understood that the Editor of this Journal is not responsible for any opinions that may be expressed in the communications published in it. The work is open to the free discussion of medical subjects by members of the profession, and it is not to be inferred that we adopt the sentiments of our correspondents, because we give a ready insertion to their favors. This notice is not elicited by any particular paper, but it is thought expedient that it should be thus expressly stated, and fully understood by the reader.

POST-MORTEM APPEARANCES OF A CHOLERA SUBJECT.

The following interesting addition to the few facts on this subject now in possession of the faculty, came too late to be placed in its proper location. It is considered better to insert it here, rather than delay its publication till another week.

New York, Aug. 15, 1832.

Dear Sir,—I have just attended an examination of one of the most malignant cases of cholera asphyxia that I have yet witnessed; and perhaps you may be interested with an account of the morbid appearances.

The subject was a very robust sailor, about forty years of age, and of intemperate habits. He was attacked with vomiting and purging on the evening of the 12th inst., and was found in a shed on the following morning, from whence he was taken to the Park Hospital, where he died in a very short time. The purging was now slight, but the vomiting and spasms were excessively severe. He had, also, the other characteristic symptoms of the disease in a prominent degree. Almost the entire surface of his body was nearly black.

The examination was commenced about ten hours after death. The surface of the body still retained its blackish hue, and the muscles, as is common, were very rigid. As their substance was divided, we observed the redness which they usually present in this disease, which contrasts very strongly with the blood in the larger arteries. The stomach was unusually capacious and rather florid. The small intestines were of a dull pinkish hue, which became less obvious in the larger. These organs were all inflated, but no where contracted. The veins of the omentum and mesentery were fuller than in the natural subject, and there was an obvious determination of blood to these viscera. The stomach contained about three gills of a fluid similar to the contents of the gall bladder, which had evidently exuded from the liver since the death of the subject, as the fluid vomited exhibited the appearance of rice water to the last moment of life. There were florid patches distributed on the mucous membrane, and its veins were fuller than natural. But I have generally

seen these appearances only in the intemperate. I examined the texture of this membrane through the alimentary canal, and we were satisfied that it was not softened, or in any respect disorganized, the reverse of which, however, I have observed in cases of apparently much less malignancy. The pyloric orifice was in a healthy state, as was also the cardiac. The mucus was natural in appearance and quantity, and equally so in the intestines. The mucous coat of the small intestines was fully injected, and the blood florid, appearing more like inflammation than congestion; though certainly not active inflammation. The large intestines were hardly in a pathologiac state, and manifested no particular vascularity at the caput coli. These organs contained a light-colored fluid. The liver was unusually large, of a hardened texture, very natural in color, and containing rather less than its natural quantity of blood. The gall bladder was full of a greenish yellow fluid, and its ducts entirely pervious. The kidneys, spleen and pancreas, natural. The bladder moderately contracted, and containing more than half an ounce of a fluid resembling thin pus. The lining membrane was morbidly vascular, of a bluish appearance, but we could not detect any evidence of gonorrhœa. The veins of the diaphragm were not full. The lungs filled the cavity of the thorax. (We frequently find them very much contracted and empty.) They were black and greatly engorged with blood. There exuded from the incisions a large quantity of a muco-serous fluid. Their structure was healthy. The heart was natural, and contained in both ventricles black blood. The large arteries remote from the heart, as is common in our examinations, were entirely empty, not even stained with blood. There was no effusion in the thorax, or other cavities. The brain, quite unexpectedly to us, exhibited the most perfect appearance of health. Its blood was not even so much discolored as in other organs, and there was no more than its natural proportion. There was no effusion under the membranes, and the ventricles were only moist.

Very respectfully,
And very truly yours,

J. C. Warren, M.D. Boston. MARTYN PAINE.

THE CASES OF CHOLERA IN THIS CITY.

ON Wednesday last two females died in this city of a disease that was said by Dr. Bigelow, and other medical gentlemen, to bear the strong marks of the malignant cholera. One of these cases occurred in Atkinson Street, and the other in South Street Place—a circumstance calculated to give the impression that the disease was breaking out in different parts of the city, and had already begun to be epidemic. On inquiry, however, it turned out that these two young women had both supped rather freely on the night previous. One of them, Miss Lord, who resided with her sister, Mrs. B., in South Street Place, received from the marketman on Tuesday morning a dozen cucumbers, of which she was particularly fond. She dined that day on milk. In the afternoon previous, she had taken tea with her friend, Miss Foster (the subject of the other case), who resided in Atkinson Street. Miss Lord took tea with her family alone, on Tuesday evening, and they prepared some minced corned beef and cucumbers, and all ate freely of them. After this meal, Miss

L. returned Miss Foster's visit, and they took some cherry rum together. Miss L. fell sick in the night, and Miss F. in the morning following, and both died in the course of the day, with symptoms of malignant cholera. So far, therefore, as any inferences are to be drawn from these cases, they should be regarded in the same light as if both had occurred in the same house, and under circumstances that could hardly have failed to excite the disease in any one at all predisposed to it.

Another consoling circumstance is, that no other case has since been known to occur; and still another circumstance to be particularly noticed, is, that these deaths have occasioned no panic among our citizens. There is still exhibited among all classes a degree of composure, cheerfulness, and discretion, that merits the highest commendation.

THE PROGRESS OF THE CHOLERA.

The cholera is declining at New York, and advancing, but slowly, at Philadelphia.—In our vicinity there are occasional instances of a mild disease, somewhat resembling that which occurred at the State Prison, and which corresponds to what the French call *Cholerine*. Most of the cases yield readily to medical treatment.—Two persons have died on board a vessel from New York, in Portland harbor. All the crew were in good health on the arrival of the vessel, excepting some diarrhœa. The night after, these two men were attacked, and both died in a few hours. Both were intemperate.—We have occasional reports of cases at New Haven, New London, Newark, New Brunswick, Princeton, the vicinity of Utica, Rochester and its neighborhood, Rotterdam, Whitehaven, Md., Washington, D. C., and other places; but Philadelphia appears to be the chief seat of the disease at this moment.——*Tuesday noon.* Several cases have occurred at Andover, Ms. Mrs. Hardy, the subject of the first case, was attacked on Saturday night and died yesterday morning.

Whole number of deaths in Boston for the week ending Aug. 18, 21. Males, 6—Females, 15. Stillborn, 2.

Of consumption, 5—drowned, 1—brain fever, 1—scarlet fever, 9—bilious colic, 1—measles, 1—inflammation in the bowels, 1—convulsions, 1—cramp in the stomach, 1—dysentery, 1—cholera, 9—canker, 1—teething, 1—accidental, 1.

ADVERTISEMENTS.

BERKSHIRE MEDICAL INSTITUTION.

The Annual Course of Lectures will commence on the first Thursday in September, and continue *fourteen* weeks.

Anatomy, Surgery, and Physiology, W. Parker, M.D.
Theory and Practice of Medicine, and Obstetrics, H. H. Childs, M.D.
Materia Medica, and Medical Jurisprudence, E. Bartlett, M.D.
Botany, Chemistry, and Natural Philosophy, C. Dewey, M.D.
Demonstrator of Anatomy, J. M. Hubbard, A.M.

Fee for the whole Course of Lectures, $45; those who have attended two full Courses at an incorporated Medical School, pay only $5; Graduation, $12. Boarding, from $1,50 to $2 a week. The tickets are to be paid for at Matriculation, or competent security given.

By order of the Trustees,
S. M. McKAY, Secretary.

Pittsfield, Mass. August 13th, 1832.

Note.—The following authors are recommended to be used by the Students during the Lecture Term. On *Anatomy*, C. Bell, Horner, and Cloquet.—*Surgery*, S. Cooper, and W. Gibson.—*Practice and Theory*, Gregory, Good, Eberle, and Dewees.—*Obstetrics*, J. Burns, Dewees, and London Practice.—*Materia Medica and Medical Jurisprudence*, Beck, Chapman, and Eberle.—*Chemistry*, Bronde, Ferrier, and Webster.

The Berkshire Medical Institution was incorporated for a College of Medicine in 1823. By an act of the Legislature, the Medical Graduates of Harvard University are authorized to practice Physic and Surgery; and, by an additional act, 'any person who shall be graduated a Doctor of Medicine in the Berkshire Medical Institution by the authority of Williams College, shall be entitled to all the rights, privileges and immunities granted to the Medical Graduates of Harvard University.'

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August 22, 1832. eop3m

Printed and published by Clapp & Hull, 184 Washington Street, Boston.—$3 a year, in advance.